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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSEPH J. MASSAD

Appeal 2009-008104
Application 10/720,608
Technology Center 3700

Before LINDA E. HORNER, STEVEN D.A. McCARTHY and
KEN B. BARRETT, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

1 STATEMENT OF THE CASE

2 The Appellant appeals under 35 U.S.C. § 134 from the decision of the
3 Examiner finally rejecting claims 6 and 9-18. The Examiner rejects claims
4 6, 10 and 12 under 35 U.S.C. § 102(b) as being anticipated by, or, in the
5 alternative, under 35 U.S.C. § 103(a) as being unpatentable over, Laszlo (US
6 4,608,020, issued Aug. 26, 1986). The Examiner also rejects under § 103(a)
7 claims 9, 11, 13, 16 and 18 as being unpatentable over Opotow (US
8 2,309,270, issued Jan. 26, 1943) and Laszlo; claim 14 as being unpatentable
9 over Laszlo and Faust (US 3,826,002, issued Jul. 30, 1974); claim 15 as
10 being unpatentable over Opotow, Laszlo and Faust; and claim 17 as being
11 unpatentable over Opotow, Laszlo and Lüth (US 5,188,529, issued Feb. 23,
12 1993). The Examiner has withdrawn claims 1-5, 7 and 8 from consideration.
13 We have jurisdiction under 35 U.S.C. § 6(b).

14 We AFFIRM.

15 Claim 9 is illustrative of the claimed subject matter:

16 9. A removable dental prosthesis,
17 comprising:

18 a special denture tooth housing for insertion
19 into the removable dental prosthesis, said tooth
20 housing provided with sides and a bottom forming
21 a receptacle located centrally between the sides
22 and above the bottom, and at least one undercut
23 notch on the sides of the receptacle in the tooth
24 housing; and

25 a central bearing device removably attached
26 by an adhesive material to said tooth housing, said
27 central bearing device receivable in a mouth of a
28 patient to maintain a proper relative vertical
29 spacing relationship between a maxillary and an
30 opposing mandibular of said dental prosthesis
31 through all eccentric movements such that the

contour of an occlusal surface of said special tooth conforms to and is molded by interaction with opposing teeth of the patient.

ISSUES

Only issues and findings of fact contested by the Appellant have been considered. *See Ex Parte Frye*, 94 USPQ2d 1072, 1075-76 (BPAI 2010).

Two issues raised in this appeal are:

First, does Laszlo describe a method which necessarily produces a denture including a special denture tooth provided with sides and a bottom forming a receptacle and at least one undercut notch in the receptacle, the contour of an occlusal surface of the denture tooth being identical to an occlusal surface conforming to and having been molded by interaction with opposing teeth? (See App. Br. 11.)

Second, do the evidence and technical reasoning underlying the rejection of independent claim 9 adequately support the conclusion that the subject matter of claim 9 would have been obvious? (See App. Br. 17.)

FINDINGS OF FACT

22 The record supports the following findings of fact (“FF”) by a
23 preponderance of the evidence.

24 1. We adopt and incorporate by reference the findings of the
25 Examiner at page 3, line 15 (“Laszlo teaches . . .”) through line 19 (“. . .
26 provides a notch.”). These findings are supported by column 3, lines 16-23
27 of Laszlo and by Figures 1-3 of Laszlo.

1 2. Laszlo describes a method for manufacturing an artificial
2 denture. The method starts with a denture baseplate *1* of wax containing six
3 frontal teeth *2* and four lateral teeth *3, 3'* on each side. Laszlo describes the
4 teeth *2, 3, 3'* as being embedded in the wax material of the dental baseplate *1*
5 to a certain depth so as to be held firmly in the baseplate *1*. (Laszlo, col. 3,
6 ll. 16-20.)

7 3. Laszlo describes the four lateral teeth *3, 3'* on each side as being
8 provided with an anatomically true outer contour. The lateral teeth *3, 3'* are
9 hollowed out to define receptacles *30* surrounded by relatively thin walls or
10 sides *31*. (Laszlo, col. 3, ll. 20-23.)

11 4. Figures 2 and 3 of Laszlo depict the receptacle *30* in each of the
12 lateral teeth *3, 3'* as being hourglass-shaped. Figures 2 and 3 depict the
13 lower portions of the receptacles *30* as flaring downwardly and outwardly.
14 This downward and outward flare of each receptacle *30* defines an undercut
15 notch extending circumferentially about the inner surfaces of the relatively
16 thin wall *31* surrounding the receptacle *30*. This downwardly and outwardly
17 flared lower portion of the receptacle *30* necessarily would tend to retain
18 hardened wax or resin in the receptacle due to the undercut nature of the
19 lower portion, even though Laszlo does not expressly disclose the
20 performance of this function. (*Cf. Ans. 6* (finding that “the show bottom of
21 the hourglass shape of [Laszlo’s receptacles *30*] will inherently function as
22 an undercut notch.”).)

23 5. Laszlo’s method includes the steps of positioning the dental
24 baseplate *1* on the bed of a dental articulator. An upper denture having solid
25 teeth is placed onto the movable upper portion of the articulator. (Laszlo,
26 col. 3, ll. 23-28.) The receptacles of the lateral teeth *3, 3'* are filled with wax

1 4. The articulator is closed. The upper portion of the articulator is moved to
2 stimulate the masticating motion of the jaws. Laszlo teaches that this
3 movement serves to remove superfluous wax from the top of the teeth by
4 rubbing action of the solid teeth in the upper denture. (Laszlo, col. 3, ll. 34-
5 42.)

6 6. After the upper denture and the dental baseplate *1* are removed
7 from the articulator, both the upper denture and the baseplate *1* are placed in
8 the mouth of a patient. The patient's chewing movements remove additional
9 wax from the teeth *3, 3'*. Laszlo teaches that this step yields a remaining
10 tooth surface on each lateral tooth *3, 3'* corresponding to the final shape of
11 the ideal denture. (Laszlo, col. 3, ll. 45-51.)

12 7. Laszlo teaches enclosing the dental baseplate *1* in a mold and
13 heating the mold. The heating melts the wax and leaves a cavity
14 corresponding to the shape of the baseplate *1* and the hollow portions of the
15 tubular teeth. (Laszlo, col. 3, ll. 52-59.)

16 8. Laszlo teaches casting the denture in two steps. A tooth-
17 colored plastic, that is, resin material is initially poured to fill the hollow
18 teeth. Subsequently, a gum-colored material is poured to fill the baseplate
19 cavity. (Laszlo, col. 3, ll. 60-63.)

20 9. We adopt the Examiner's finding that the final plastic forming
21 the bottom of each lateral tooth, that is, the interface between the tooth-
22 colored and gum-colored materials, will constitute the bottom of each lateral
23 tooth. (Ans. 6.) Each lateral tooth will have sides and a bottom.

24 10. Implicit in the Examiner's finding that the product of Laszlo's
25 method anticipates the subject matter of claim 6 is a finding that the contour
26 of the occlusal surfaces of the lateral teeth of a denture fabricated by

1 Laszlo's method would be identical to the contour of an occlusal surface
2 "conforming to and having been molded by interaction with opposing teeth."
3 We adopt this finding.

4 11. As the Examiner points out, the method disclosed by the
5 Appellant's Specification for forming the subject matter of claims 6 and 9
6 "fills a hollow pre-tooth with resin and before the resin hardens, shapes the
7 resin by occluding the tooth with the opposing tooth to shape the occlusal
8 surface forming the final tooth." (Ans. 6; *see also* Spec. 14, l. 21 – Spec. 15,
9 l. 6.) Similarly, Laszlo "fills a hollow pre-tooth with wax, shapes the wax
10 against the opposing tooth and then melts the wax forming a cast in which is
11 cast the final tooth." (Ans. 7; *see also* FF 5-8.) The similarity between the
12 method disclosed by the Specification and the method described by Laszlo
13 provides a sound basis for the Examiner to infer that the occlusal surfaces of
14 wax fillings formed by Laszlo's method prior to the casting of the denture
15 are identical to surfaces molded by interaction with opposing teeth in
16 accordance with the method disclosed in the Specification. It follows that
17 the Examiner has a sound basis for inferring that the occlusal surfaces of the
18 resinous teeth formed by casting in the mold formed around the wax fillings
19 are identical to surfaces molded by interaction with opposing teeth in
20 accordance with the method disclosed in the Specification. Since the
21 Appellant provides no persuasive evidence to the contrary, we adopt the
22 inference as fact.

23 12. We adopt and incorporate by reference the Examiner's findings
24 at page 4, line 7 ("Opotow shows . . .") through line 12 (". . . a tooth housing
25 with a receptacle.").

1 13. Opotow discloses a device and method capable of determining
2 the proper relationship of plates of completed dentures as regard the bite or
3 occlusion of the patient. (Opotow 1, first column, ll. 34-39.) Opotow
4 describes the method as one to determine whether the occlusion of the
5 dentures is balanced under biting pressure. "Any variation of gum tissue not
6 accounted for in the construction of the dentures will now become apparent,
7 inasmuch as softened tissue will give in response to the pressure of the
8 dental plate thereagainst and there will be no balanced occlusion of teeth
9 under biting stress." (Opotow 2, first column, ll. 30-35.)

10

ANALYSIS

12 *First Issue*

13 Claim 6 recites a

14 special denture tooth for use in a removable dental
15 prosthesis, comprising: a special denture tooth for
16 insertion into a removable dental prosthesis, *said*
17 *denture tooth provided with sides and a bottom*
18 *forming a receptacle* located centrally between the
19 sides and atop the bottom, *at least one undercut*
20 *notch in the receptacle to retain a resin filling the*
21 *receptacle and the undercut notch to form the*
22 *occlusal surface of the denture tooth, the contour*
23 *of said occlusal surface conforming to and having*
24 *been molded by interaction with opposing teeth.*

25 (Emphasis added.)

26 Laszlo describes a method which necessarily produces a denture
27 including a special denture tooth provided with sides and a bottom forming a
28 receptacle. (FF 3 and 9.) In addition, the contours of the occlusal surfaces
29 of the lateral teeth of dentures formed by Laszlo's method are identical to
30 occlusal surfaces conforming to and having been molded by interaction with

1 opposing teeth. (FF 10 and 11.) Since claim 6 recites a structure, namely, a
2 removable dental prosthesis, and since the recitation limiting the contour of
3 the occlusal surface to that “having been molded by interaction with
4 opposing teeth” is in product-by-process form, the latter finding implies that
5 any denture formed by Laszlo’s method meets the last italicized limitation of
6 claim 6. *See SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312,
7 1318 (Fed. Cir. 2006)(“[A]nticipation by an earlier product patent cannot be
8 avoided by claiming the same product more narrowly in a product-by-
9 process claim.”).

10 Laszlo’s method also necessarily produces a denture having at least
11 one undercut notch in the receptacle. More precisely, the ordinary usage of
12 the term “notch” is sufficiently broad to include a V-shaped indentation or
13 hollow in a surface (WEBSTER’S THIRD NEW INT’L DICTIONARY (G&C
14 Merriam 1971)(“notch, entry 1, def. 1a)) or, more generally, an undercut (*id.*
15 (“notch,” entry 1, def. 1c)). The ordinary usage of the term “undercut” is
16 sufficiently broad to include cutting away material from the underside of an
17 object so as to leave an overhanging portion in relief (*id.* (“undercut,” entry
18 1, def. 2) or the result of cutting away the underside of anything (*id.*,
19 (“undercut,” entry 2, def. 1)). The Appellant does not identify any passage
20 of the Specification formally defining the term “undercut notch” more
21 narrowly than its ordinary usage. Neither does the Appellant present any
22 persuasive evidence that the term “undercut notch” would be understood
23 more narrowly in the pertinent art.

24 This ordinary usage is sufficiently broad to include the downwardly
25 and outwardly flared lower portions of the receptacle 30 of the lateral teeth
26 of dentures made by Laszlo’s method. In addition, the downwardly and

1 outwardly flared lower portions are at least capable of retaining a resin
2 filling the receptacle and the undercut notch. Therefore, the lateral teeth
3 formed by Laszlo's method necessarily have undercut notches. (FF 4.)

4

5 *Second Issue*

6 The Examiner correctly finds that Laszlo describes a method which
7 necessarily produces a denture including a special denture tooth housing
8 meeting the limitations of the first indented clause of claim 9. (FF 1.)

9 Although the special denture tooth housings disclosed in Laszlo are filled
10 with resin during the course of Laszlo's method, the finished denture
11 includes the tooth housings. (*See* FF 8.) The Examiner also correctly finds
12 that Opotow describes a method in which a central bearing device meeting
13 the limitations of the second indented clause of claim 9 is removably
14 attached to a completed denture. (FF 12.)

15 The Examiner is correct in concluding that it would have been
16 obvious "to modify Opotow to include a tooth housing as shown by Laszlo
17 in order to better obtain the desired occlusion by an art known alternative
18 method." (Ans. 4.) Recently, the Supreme Court reaffirmed that, if a claim
19 which "simply arranges old elements with each performing the same
20 function it had been known to perform' and yields no more than one would
21 expect from such an arrangement, the combination is obvious." *KSR Int'l
22 Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007)(quoting *Sakraida v. Ag Pro,
23 Inc.*, 425 U.S. 273, 282 (1976)). Here, it would have been obvious to
24 perform Opotow's method for determining the proper relationship of dental
25 plates using as a starting material a completed denture fabricated by Laszlo's
26 method. The removable attachment of the central bearing device to Laszlo's

1 denture during the course of performing Opotow's method would have
2 produced a denture meeting all limitations of claim 9.

3 Laszlo's method would produce a denture having the same special
4 denture tooth housings regardless whether Opotow's method were
5 subsequently applied to the denture. The Appellant does not appear to allege
6 that Opotow's method would function differently if applied to a denture
7 made by Laszlo's method than if applied to a denture made by another
8 method. In view of this, the results of the combination would have been
9 predictable and combination itself would have been obvious. The Appellant
10 provides no persuasive evidence or argument suggesting that one of ordinary
11 skill could not have performed Opotow's method on a denture fabricated by
12 Laszlo's method.

13

14 CONCLUSIONS

15 Laszlo describes a method which necessarily produces a denture
16 including a special denture tooth provided with sides and a bottom forming a
17 receptacle and at least one undercut notch in the receptacle, the contour of an
18 occlusal surface of the denture tooth being identical to an occlusal surface
19 conforming to and having been molded by interaction with opposing teeth.
20 We sustain the rejections of claims 6, 10 and 12 under § 102(b) as being
21 anticipated by, or, in the alternative, under § 103(a) as being unpatentable
22 over, Laszlo.

23 The evidence and technical reasoning underlying the rejection of
24 independent claim 9 adequately support the conclusion that the subject
25 matter of claim 9 would have been obvious. We sustain the rejections of

1 claims 9, 11, 13, 16 and 18 under § 103(a) as being unpatentable over
2 Opotow and Laszlo.

3 The Appellant provides no arguments suggesting that claim 14 might
4 be patentable over Laszlo and Faust if claim 6 is anticipated by Laszlo.
5 Neither does the Appellant provide any argument suggesting that claim 15
6 might be unpatentable over Opotow, Laszlo and Faust; or that claim 17
7 might be patentable over Opotow, Laszlo and Lüth, if claim 9 is
8 unpatentable over Opotow and Laszlo. We sustain the rejection of claim 14
9 under § 103(a) as being unpatentable over Laszlo and Faust; the rejection of
10 claim 15 under § 103(a) as being unpatentable over Opotow, Laszlo and
11 Faust; and the rejection of claim 17 under § 103(a) as being unpatentable
12 over Opotow, Laszlo and Lüth.

13

14 **DECISION**

15 We AFFIRM the Examiner's decision rejecting claims 6 and 9-18.

16 No time period for taking any subsequent action in connection with
17 this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.
18 § 1.136(a)(1)(iv).

19

20 **AFFIRMED**

21

22
23 Klh

24

25

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